

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated November 1, 2005 has been received and its contents carefully reviewed. Applicants appreciate the indication by the Examiner that claims 2, 3, 5, 14, 15, and 17 recite allowable subject matter.

Claims 1-22 are pending in the application. Reconsideration and withdrawal of the objections and rejections in view of the following remarks are respectfully requested.

In the Office Action, claims 1, 4, 6, 7, 9-13, 16, and 18-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Boyd et al. (US 4,333,708) in view of Aratani et al. (US 6,222,602 B1). Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Boyd et al. and Aratani et al in view of Shibahara et al. (US 6,870,587). Claims 2, 3, 5, 14, 15, and 17 are objected to as depending from a rejected base claim.

The rejection of claims 1, 4, 6, 7, 9-13, 16, and 18-22 under 35 U.S.C. § 103(a) as being unpatentable over Boyd et al. (US 4,333,708) in view of Aratani et al. (US 6,222,602 B1) is respectfully traversed because neither Boyd et al. or Aratani et al, analyzed alone or in any combination, suggests or teaches the combined features recited in the claims, and reconsideration is requested.

Claim 1 recites an In-Plane switching mode liquid crystal display (LCD) device including “a plurality of first common electrodes diverging in the pixel region at fixed intervals”, “a first pixel electrode in the pixel region between the first common electrodes”, and “second common electrodes and second pixel electrodes on the upper substrate respectively corresponding to the first common electrodes and the first pixel electrodes on the lower substrate.” Claim 13 recites a method for manufacturing an In-Plane switching mode LCD device including “forming a plurality of first common electrodes diverging in the pixel region at fixed intervals”, “forming a first pixel electrode in the pixel region between the first common electrodes”, “forming a second common electrode on the upper substrate corresponding to the

first common electrode; and forming a second pixel electrode on the upper substrate corresponding to the first pixel electrode.”

In the Office Action, the Examiner cites Fig. 32 of Boyd et al as teaching the combination of features in claim 13, identifying ref 503 “as a plurality of first common electrodes diverging in the pixel region at fixed intervals,” and ref 501 as a second common electrode. The Examiner does not specifically identify the pixel electrodes by reference number, but the Examiner’s remarks imply that ref 502 and ref 504 of Fig. 32 correspond to the first and second pixel electrodes respectively. Applicants respectfully disagree with this characterization of the teachings of Boyd et al. In particular, Boyd et al. does not teach that the items identified by reference numbers 503 and 501 represent common electrodes or that the items identified by reference numbers 502 and 504 are pixel electrodes. In fact, Boyd et al. does not specifically identify the electrodes 501-504 as pixel and common electrodes. Boyd et al. discloses three operating modes for the device disclosed in Fig. 32, with the operating modes described by reference to Fig. 33, 34, and 35. In the first two modes, described in column 18, lines 43-54, and illustrated in Figs. 33 and 34, electrodes 501 and 504 are interconnected and driven with a first signal, while electrodes 502 and 504 are connected together and driven with a signal having a phase difference from the first signal. Thus, the electrodes 501 and 502 are disclosed by Boyd et al. as serving a common function, while electrodes 502 and 503 are disclosed as serving a second common function. This is contradictory with the identification of electrodes 501 and 503 as common electrodes and electrodes 502 and 504 as pixel electrodes. In the third mode, described in column 18, line 65 through column 19, line 7 of Boyd et al, and illustrated in Fig. 35, signals having four different phases are applied respectively to each of the electrodes 501-504 to produce a stable rotating electric field with none of the electrodes identifiable as a common electrode or a pixel electrode. Applicants submit that none of the described modes of operation for electrodes 501-504 involves electrodes operating as pixel and common electrodes arranged as described in claims 1 and 13.

The Examiner relies on Aratani et al. to cure the deficiencies in the teachings of Boyd et al. Aratani et al. discloses a liquid crystal display wherein “at least one of the pair of substrates has plural electrodes...” Applicants submit that Aratani et al does not cure the deficiencies in the teachings Boyd et al. Accordingly, Applicants submit that claims 1 and 13 are

allowable over Boyd et al and Aratani et al., and that claims 1 and 13, and claims 4, 6, 7, 9-12, 16, and 18-22, which depend therefrom, are patentable over the cited references. Applicants request that the rejections to these claims be withdrawn.

With respect to claims 4 and 16, the Examiner cites Boyd et al. as disclosing “a same voltage (+) applied to the first and second common electrodes (202, 200).” The Examiner does not identify the portion of Boyd et al. supporting the contention that Boyd et al. teaches applying the same voltage to the first and second common electrodes. Fig. 44 and the related discussion in column 22, lines 29-44 of Boyd et al. are contrary to the Examiner’s contention. Applicants request that the Examiner point out with particularity the teaching in Boyd et al. to apply the same voltage to the first and second common electrodes or that the rejection to claims 4 and 16 be withdrawn.

The rejection of claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Boyd et al. and Aratani et al. in view of Shibahara et al. is respectfully traversed because neither Boyd et al., Aratani et al, nor Shibahara et al., analyzed alone or in any combination, suggests or teaches the combined features recited in the claim, and reconsideration is requested.

Claim 8 depends from claim 1, and as discussed above, Boyd et al. and Aratani et al do not teach or suggest every element of claim 1. Shibahara et al. discloses a liquid crystal display having “...a plurality of pixel electrodes and common electrodes formed on a transparent substrate”. Applicants submit that Shibahara et al. analyzed singly or in combination with Boyd et al. and Aratani et al. does not cure the identified deficiencies in the teachings of Boyd et al. and Aratani et al. Accordingly, Applicants submit that claim 8 is patentable over the cited references for at least this reason, and respectfully request that the rejection to claim 8 be withdrawn.

The objection to claims 2, 3, 5, 14, 15, and 17 as depending from a rejected base claim is respectfully traversed and reconsideration is requested. Applicants submit that claims 1 and 13, from which claims 2, 3, 5, 14, 15, and 17 respectively depend are allowable at least for the reasons given above. Accordingly, Applicants respectfully request that the objection to claims 2, 3, 5, 14, 15, and 17 be withdrawn.

Applicants believe the foregoing remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

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Respectfully submitted,

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